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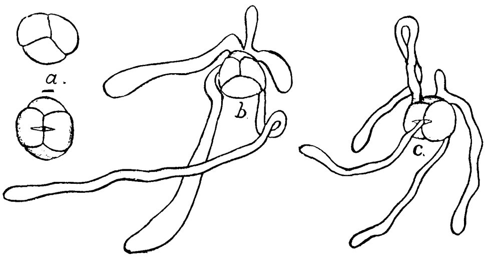
gestion of dimorphism in this species, as the strong tendency to become unisexual is in large part sufficient to account for the greater robustness of pistil or stamen, as the case may be, which may readily include length of style or filament.

The point uppermost in Dr. Gray's mind in publishing his observations seems still undetermined, namely: " to ascertain, if possible, whether the short-stigma blossoms ever set seed." In other words, whether there is an approximate diœcism simply, or a tendency toward dimorphism yet imperfectly attained.

The pollen of the *Epigæa* was germinated with ease in nutrient solution, and as the grains, like nearly all of the order, are united in fours, it is of interest to show that all quadrants are equally active in producing tubes. Two of the grains are shown at *a* before germination, while at *b* and *c* are seen two others that have sent out four tubes, one for each quadrant. It has been found that the best nutrient solution for the growth of the pollen is often obtained by soaking mature stigmas in water.



A Botanical Excursion to Asateague Bay.

By H. H. Rusby.

ABSTRACT.*

Asateague Bay is a shallow sound situated off the eastern Peninsula of Maryland near its southern extremity, and just at the boundary line between Maryland and Virginia. It is at present somewhat notorious as being the scene of the great oyster war now in progress. Near it lies the island of Chincoteague, especially noted for the fact that it bears a race of wild horses the origin of which is somewhat uncertain. These horses are known as " Beach Ponies, " and are quite different in form, habits and powers of endurance from our ordinary horses, considerably resembling in these points the American mustang. Every year the colts are branded, and at this time there is a regular "round-up" such as may be witnessed in Texas and Mexico.

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* Read before the Torrey Botanical Club.

The land in the vicinity of the bay is very low and level, so that the small streams, called "branches," have scarcely any current. In their vicinity the undergrowth is exceedingly dense and thorny. The land is for the most part sandy, and is covered in many parts with a growth of pine mixed with various hard woods. This pine was not examined. It exists over the entire peninsula and gives foundation to a large and important lumbering industry. My object being to spend a few days upon the sea-coast, I saw very little of the forest region, and made no collection of trees. The chief features of the flora of the shore region are as follows :

The variety of species represented upon any given area is exceedingly large, approximating the most extensive variety that I have ever seen elsewhere. Thus in a single field of about an acre, I collected something like sixty species in flower within a few days. At the same time the growth is very dense, and there are of course places where a single species or two will grow to the exclusion of almost everything else. Among the most prominent of such species may be mentioned the following : *Phaseolus umbellatus* and *P. helvolus*, that form a dense tangle over large fields. Of these the *P. umbellatus* grows in damper situations, and either trails prostrate for a long distance or ascends by twining around weeds and bushes; while *P. helvolus* inhabits higher regions of loose sand, and elevates its net work of stems about a foot above the surface of the soil, so as to render travel through it excessively wearisome. This plant, as it grows over a large area, displaying the numberless heads of its large, rose-purple or deeper colored flowers, is by no means unhandsome. Associating closely with the latter is *Cassia nictitans*, which alternates with it in large patches, while the *C. Chamæchrista* similarly associates with the *P. umbellatus.* It is important to note here that these two names of *Phaseolus* are used in their corrected application. The genuine *P. helvolus*, L., is as Dr. Britton has clearly shown, the *P. diversifolius* of Gray's Manual, while *P. umbellatus* is the *P. helvolus* of the Manual. Everywhere in damp situations abounds *Rhexia Virginica.* *Viburnum nudum* takes the place of our *V. prunifolium*, but grows in much damper locations, bordering sluggish streams in low land. Very abundant in similar locations and growing with great luxuriance is *Magnolia glauca.* Some of the swamps in the vicinity of these streams were covered with forests of *Taxodium distichum*. *Quercus Phellos* was the commonest oak. Other shrubby or arborescent species on drier ground were *Castanea pumila*, *Ilex glabra* and *I. opaca.* Of these the last named was abundant, large, and very handsome growing among other trees. The ribs upon the fruit of *Ilex glabra* were very prominent and quite opposed to the description given in our Manual. Another very handsome small tree was the *Symplocos tinctoria*, but a single specimen however being noted, and that having been removed from the adjacent forest to a door-yard. It was the only specimen which the residents had ever seen. In its general appearance it closely resembles a small orange tree. *Lagerstrœmia Indica* thrives finely and blooms freely in the open air, which will perhaps indicate, more clearly than anything else, the comparative mildness of the climate. In a field a few miles from the shore grows a large mulberry tree, famous throughout the region. It is much earlier than its neighbors in the maturing of its fruit, which it continues to produce until the occurrence of killing frost. These fruits do not soften and decay as those of the common species, but become whitened, membranaceous and dessicated at the tip, remaining firm but juicy within for some time. The tree puzzled me very greatly until I learned that it was the common *Morns nigra* of Europe. *Tecoma radicans* is thoroughly native, running everywhere over fences and in waste ground, and, in short, thoroughly imitating in its occurrence our *Rhus radicans.* The prevalent morning-glory is *Ipomœa Nil.* A specimen of *Anemone Virginiana* was collected in fruit with the heads of fruit doubled ; that is, apparently two heads laterally coherent. *Polygala* was well represented by five species. *P. verticillata* was typical. A form was found which it was difficult to place either in *P. sanguinea* or *P. fastigiata.* Among *Hypericums* the typical *H. Canadense* was supplemented by many forms approaching in varying degree toward *H. mutilum.* Of the latter, specimens reaching the height of over two feet, and very broadly spreading, were collected. *Stylosanthes biflora* was conspicuous, not only for the luxuriance of the plants, but the handsome flowers, larger than anything I had before seen. Along with *Hibiscus Moscheutus, Kosteletzkya Virginica* occurred not rarely. It is a much more slender and more branching plant. The former grew over large areas and was note-worthy for possessing a much lighter color than our northern species. Rosaceæ yielded two plants of very unusual interest. A small *Agrimonia*, abundant in grassy spots under pine trees, was markedly different from any form which I had ever seen. Very slender, with not more than two or three leaves, these almost invariably possessing only three leaflets, which are rounded, coarsely dentate, much whitened underneath and almost wanting in any secondary leaflets, makes it appear almost distinct from the *A. Eupatoria.* It is to be further studied. Scarcely less interesting was the sand blackberry of the region, growing commonly and producing an abundance of delicious fruit. Instead of small, cuneiform leaflets, it produced them from one to two inches in length and elliptical in form. Both species of *Diodia* were abundant, the flowers of *D. Virginica*, unlike those of *D. teres*, being showy, white and wax-like, and making the plant decidedly beautiful. Compositæ furnished a number of species unknown to us here, among them being *Verbesina Siegesbeckii, Cacalia atriplicifolia, Elephantopus Carolinianus, Polymnia Uvedalia*, both species of *Pluchea* and *Pyrrhopappus Carolinianus.* The latter was strikingly similar in its general aspect to the *P. Rothrockii* which I have collected upon the Rio Grande. Never have I found *Solidago odora* so odorous as here. One of the most interesting plants collected was a peculiar form of *Eryngium Virginianum* which grew along with the typical form. Instead of having its flowers and divisions of the umbel sessile, they possessed elongated stalks, giving the head the appearance of a loose and pretty little umbel. Not less interesting was a *Lobelia*, a single specimen of which was collected, growing remote from any other plant of the genus. It is not much like any described species, coming perhaps nearest to *L. puberula.* Its corollas, however, are much longer, of a different form, and its calyx much broader and stouter so densely white-hispid as to give it the appearance of being covered with snow-flakes. The plant is some three feet or more high, very stout and leafy. The exceeding variability of *L. puberula* will in all probability require that this plant be referred to that species. The prevailing *Lobelias* of the region are *L. inflata*, *L. cardinalis* and, particularly, *L. Nuttallii*, the latter taking the place of and closely resembling our *L. Kalmii.* A very slender form of *Steironema*, with very long pedicels, grew in water. *Asclepias rubra*, together with a very thick-leaved form of *A. purpurascens*, occurred sparingly, and were found in fruit. *Polypremum procumbens* and *Erythræa ramossissima*, the latter the Florida form, were not rare. Both species of *Mimulus* occurred, the *M. alata* readily distinguished by its petioled leaves. Here I collected for the first time *Linaria Elatine*, its very long and slender stems closely prostrate and its tiny flowers variegated with yellow, purple and white. Accompanying it in the greatest abundance, and growing similarly, was *Anagallis arvensis*. *Symphytum* was found sparingly escaped. *Solanum Carolinianum* was common. A few plants of *Lippia lanceolata* were collected. *Verbena officinalis* covered all waste land, roadsides, etc., the plants being very large. *Salvia lyrata* was conspicuous in a single locality, partly shaded by pine trees. *Teucrium* was small, slender and sparsely leaved. A single plant of *Sagittaria lancifolia* was collected, the first which I had ever seen growing. *Hypoxis erecta* was collected in a very small and slender form, which maintained its character wherever found. *Spiranthes gracilis* was the species occurring here, and readily distinguished from *S. simplex* by the possession of several roots, the best mark of distinction that I know of for these two species. Both *Xyris flexuosa* and *X. Caroliniana*, and both *Eriocaulon septangulare* and *E. decangulare* occurred in abundance.

Finally I mention one of the most striking peculiarities of habit observed. It is perhaps because the land is so very low and wet, and subject to overflow, or at least to the continued standing of water, that there is a general tendency for plants to assume an unusually erect position with a marked absence of leaves from the lower part. This was particularly noted in the case of *Trifolium pratense. Polygonum Pennsylvanicum*, instead of being decumbent with many broadly spreading rooting branches from the base, as we know it, grew absolutely erect, sometimes to the height of three feet or more, often entirely simple, more commonly with from one to three branches of habit similar to that of the stem, to which they ascended in close proximity. The leaves were few and strictly erect about the stem. *Euphorbia hypericifolia* was abundant, but I found no plant which branched. All grew to the height of from two to five inches, strictly erect, and naked below.

A Trip to Montauk Point, Long Island.

BY ARTHUR HOLLICK.

Montauk Point, Long Island, by reason of its comparative inaccessibility, has not been much visited by botanists. It is distant from Sag Harbor, the nearest railroad station, about seventeen miles as the crow flies, and as the journey from that point must be made by wagon the actual distance is somewhat more. The usual method of accomplishing it is to drive from Sag Harbor to Amagansett, spend the first night there, taking all the following day to reach the point and return to Amagansett. Even by this means the trip is necessarily a hurried one, and there is but little spare time for exploration on the way.

On July 4th and 5th of last year, I was able to make the trip, and it proved to be a highly interesting one. Between Sag Harbor and Amagansett the land is flat and sandy. *Tephrosia Virginiana* and *Lupinus perennis* were in profusion by the roadside, and *Echium vulgare* was abundant and conspicuous just beyond the thickly settled part of Sag Harbor. From Amagansett to the Point the road first runs parallel to the beach through sand and wet meadow land. Great patches of *Hudsonia tomentosa* and *Arenaria Caroliniana* covered the ground where dry, and in the wet places were thick mats of *Oxycoccus macrocarpus* and *Arctostaphylos Uva-ursi* was everywhere. *Rhododendron viscosum* in large clumps occurred frequently, and in one of these I noted a bush bearing dark pink flowers. My first thought was that it must be a belated individual of *nudiflorum*, but a brief examination proved it to be a pink form of *viscosum*. The leaves are slightly glaucous beneath, giving a somewhat grayish-green appearance to the bush, which served to distinguish it from the mass of the other foliage. It is rather a curious coincidence that